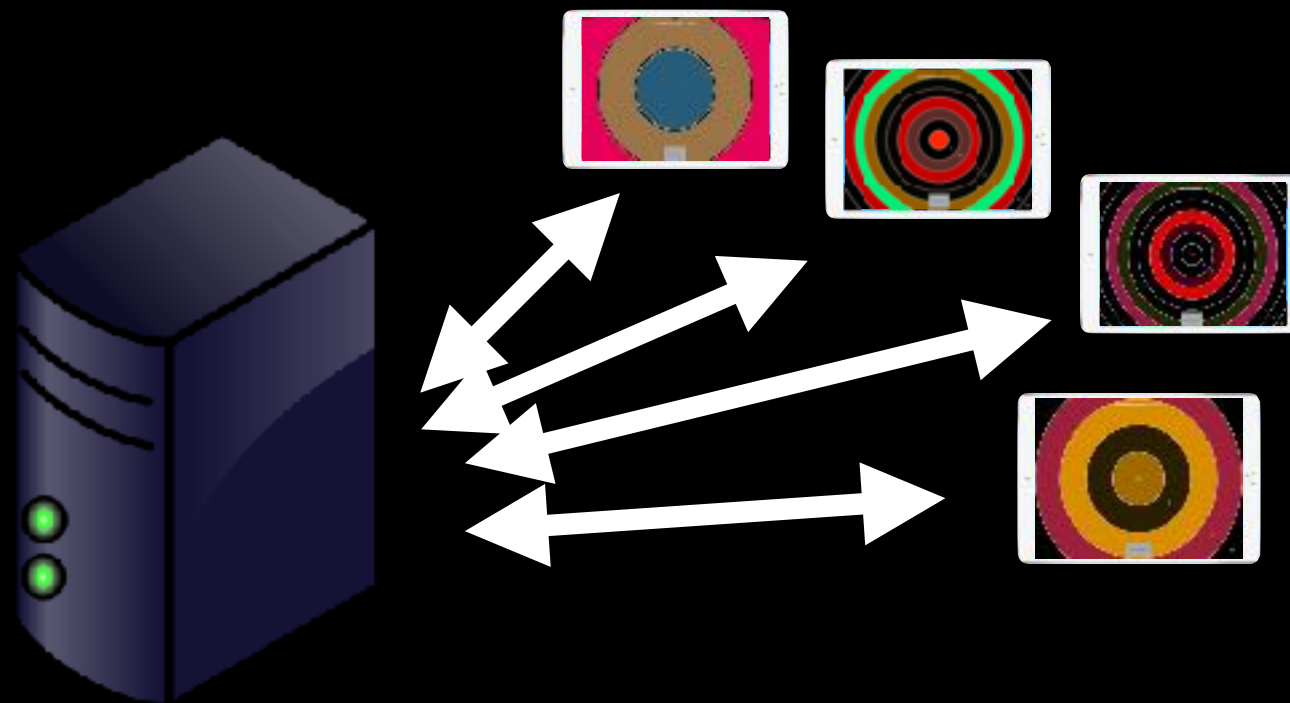
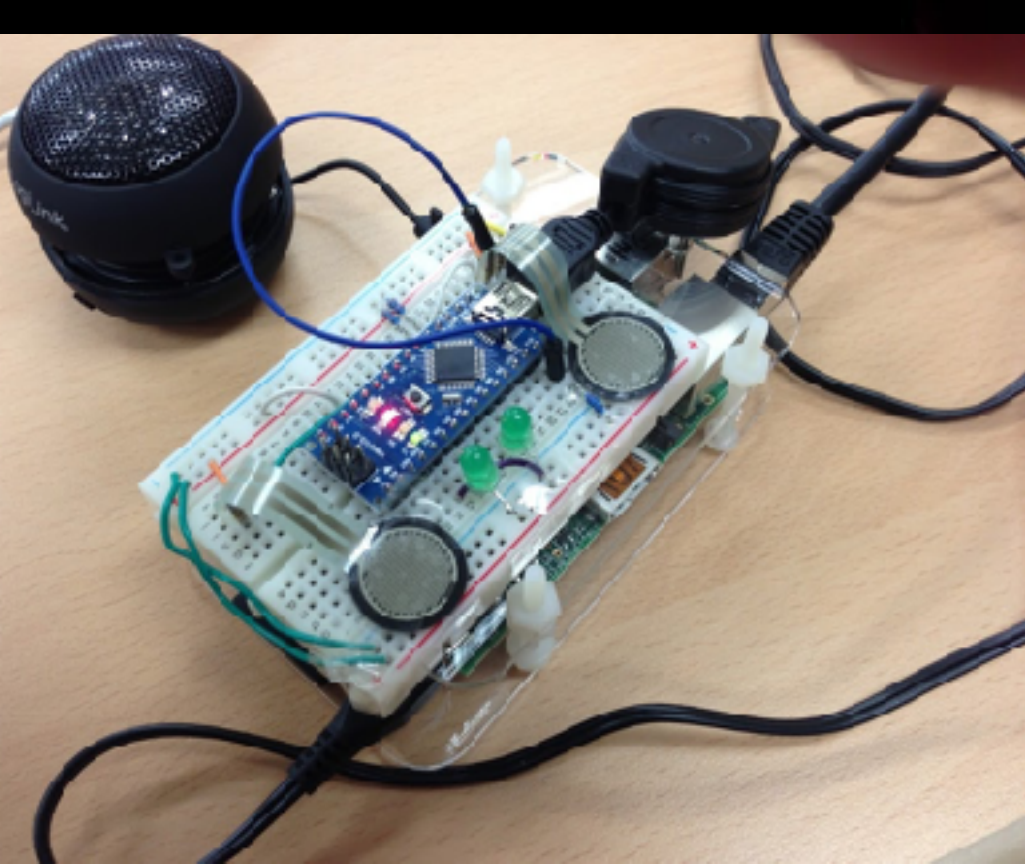


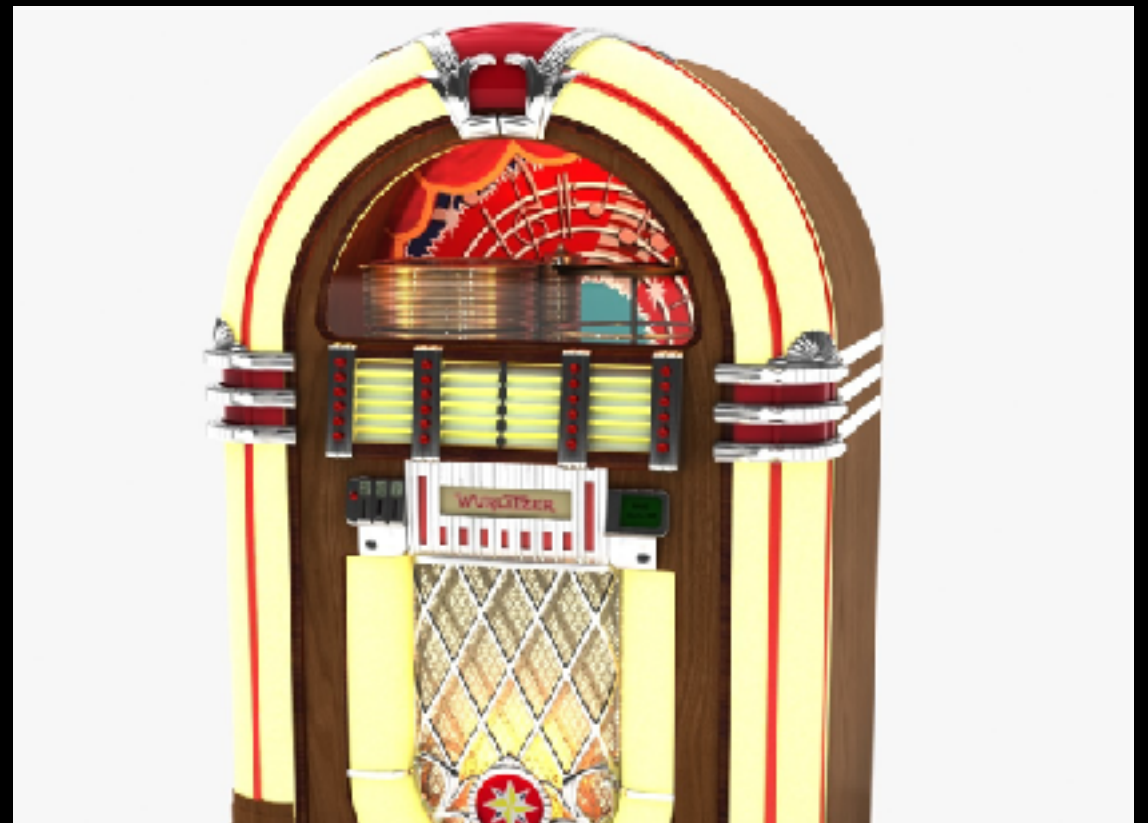
Ensemble Director Agents

Charles Martin





What are computers
supposed to do in
musical performance?



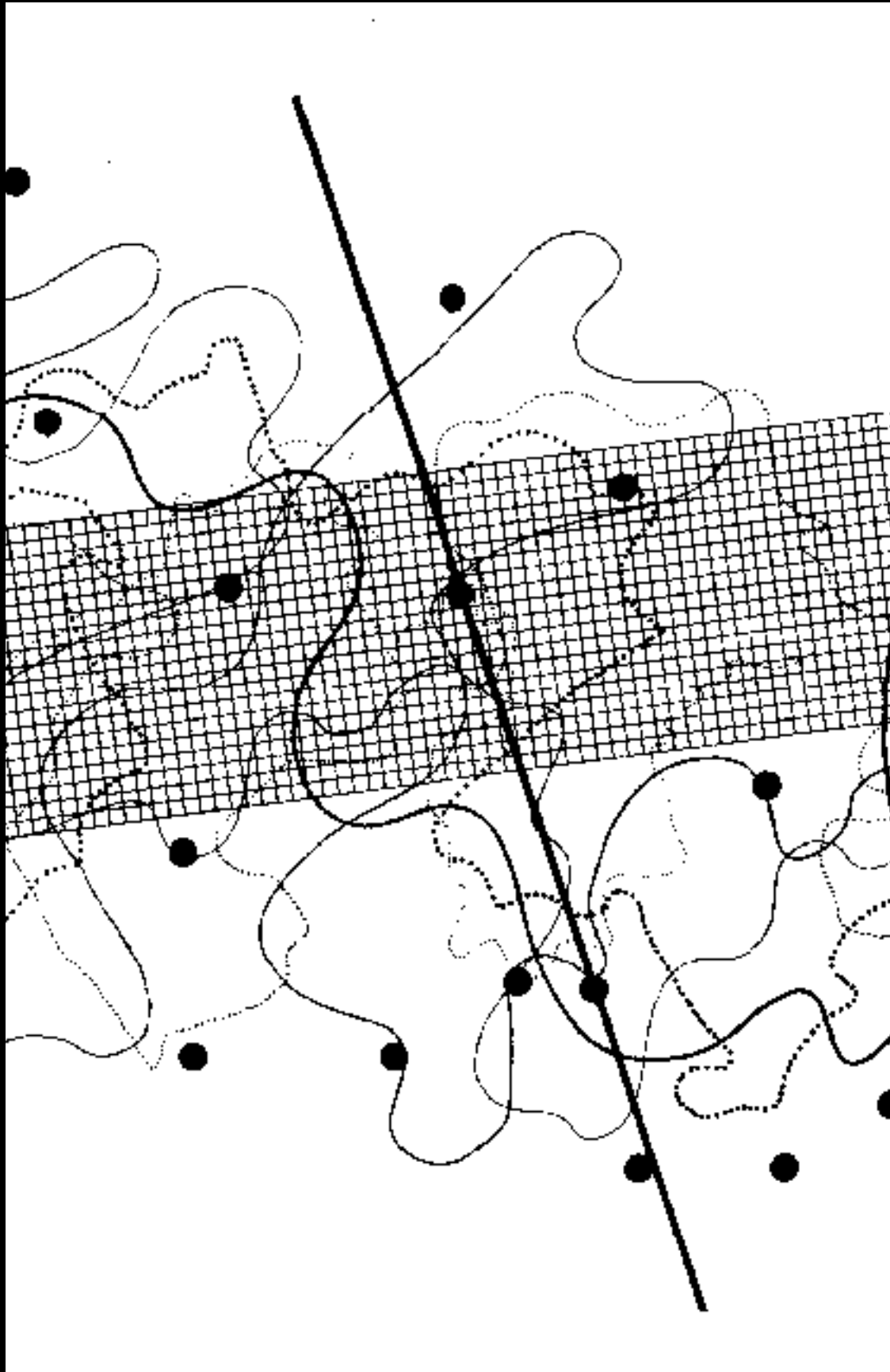
“The computer as musical director” - Pressing (1990)

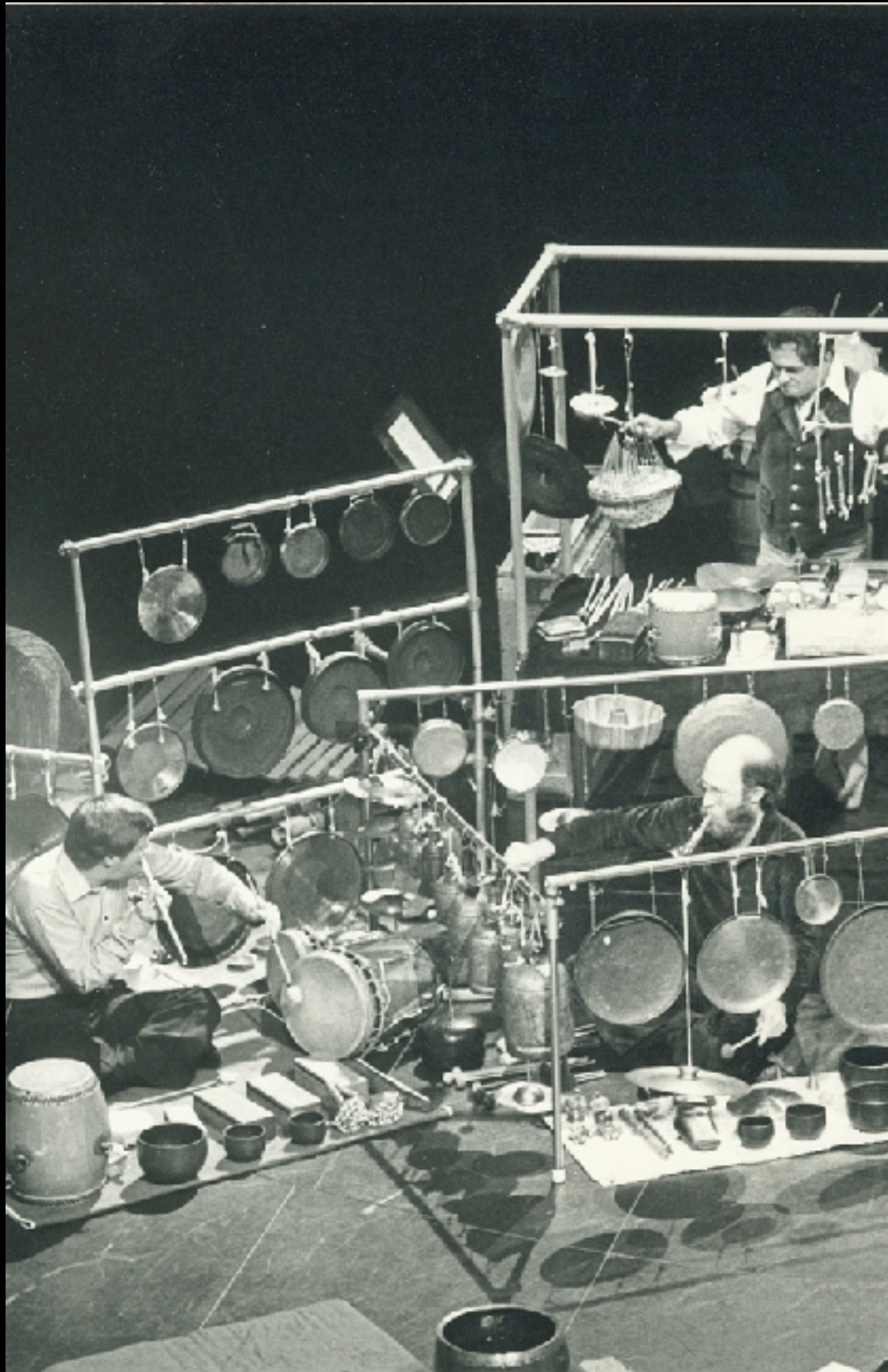


?

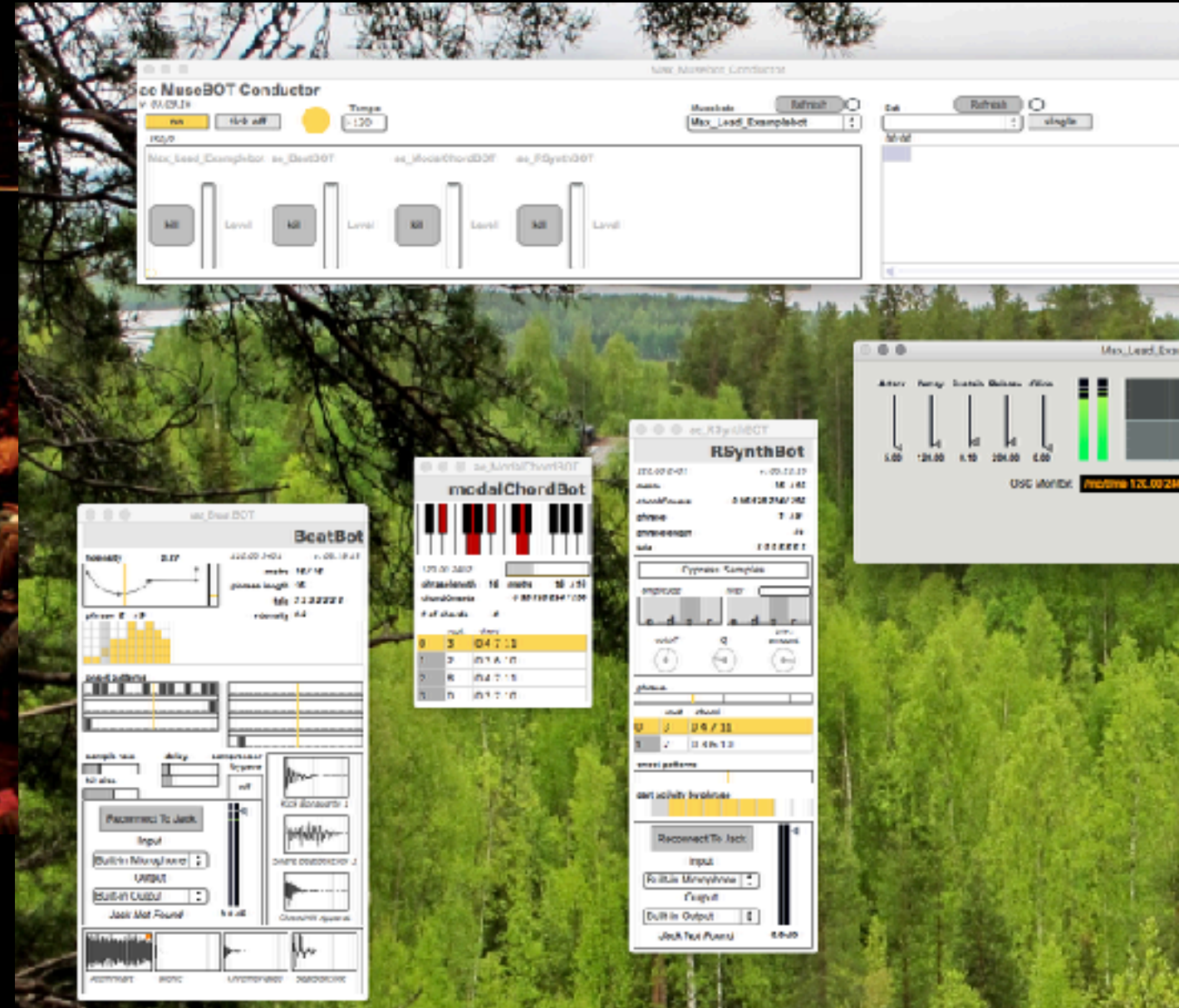
Musical Director Agent

- monitor information from performers
- “applies tests”
- “decide... invoke interruptions to ongoing processes, change data transformations, correct errors, issue commands to performers, etc”





State of the art?

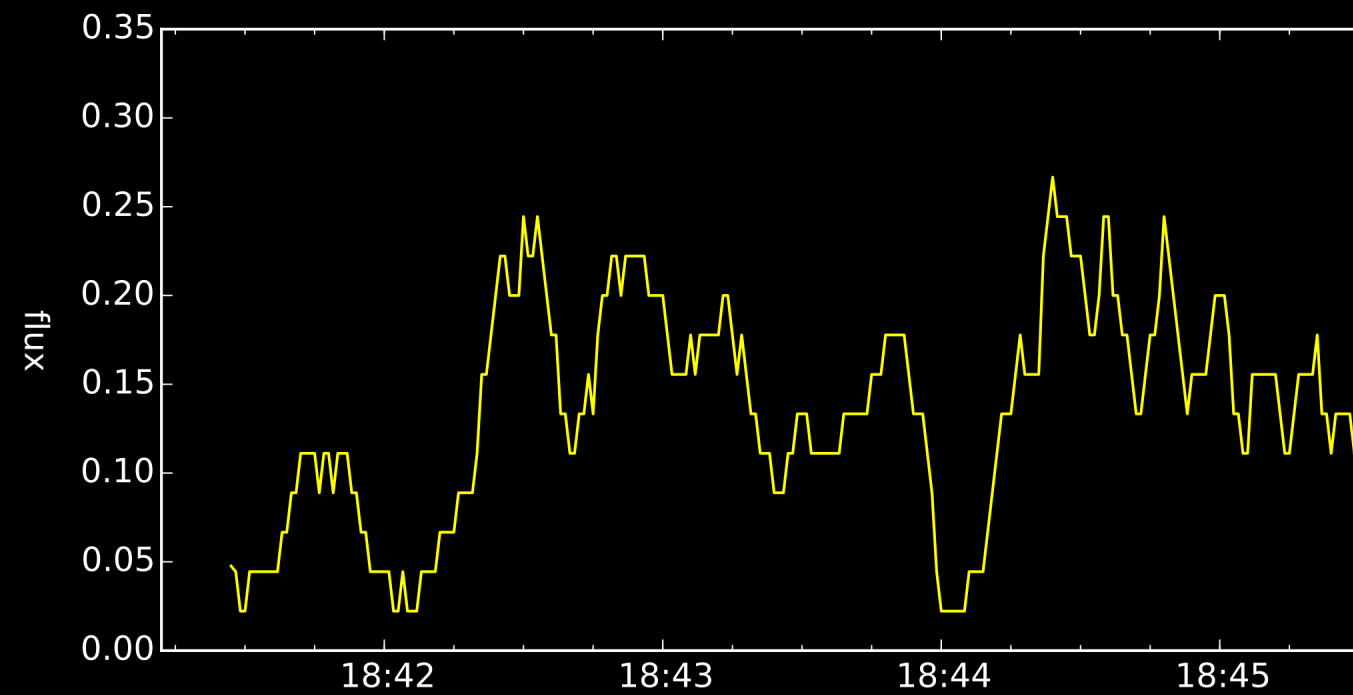
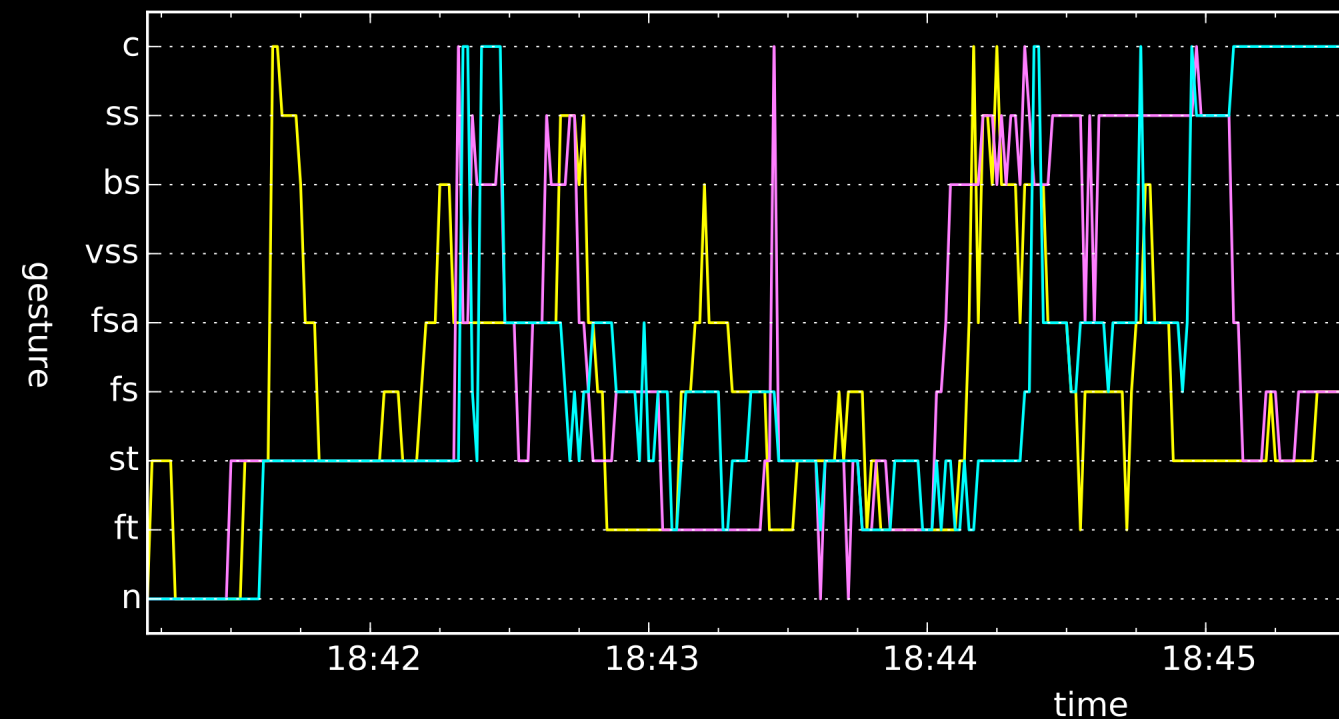




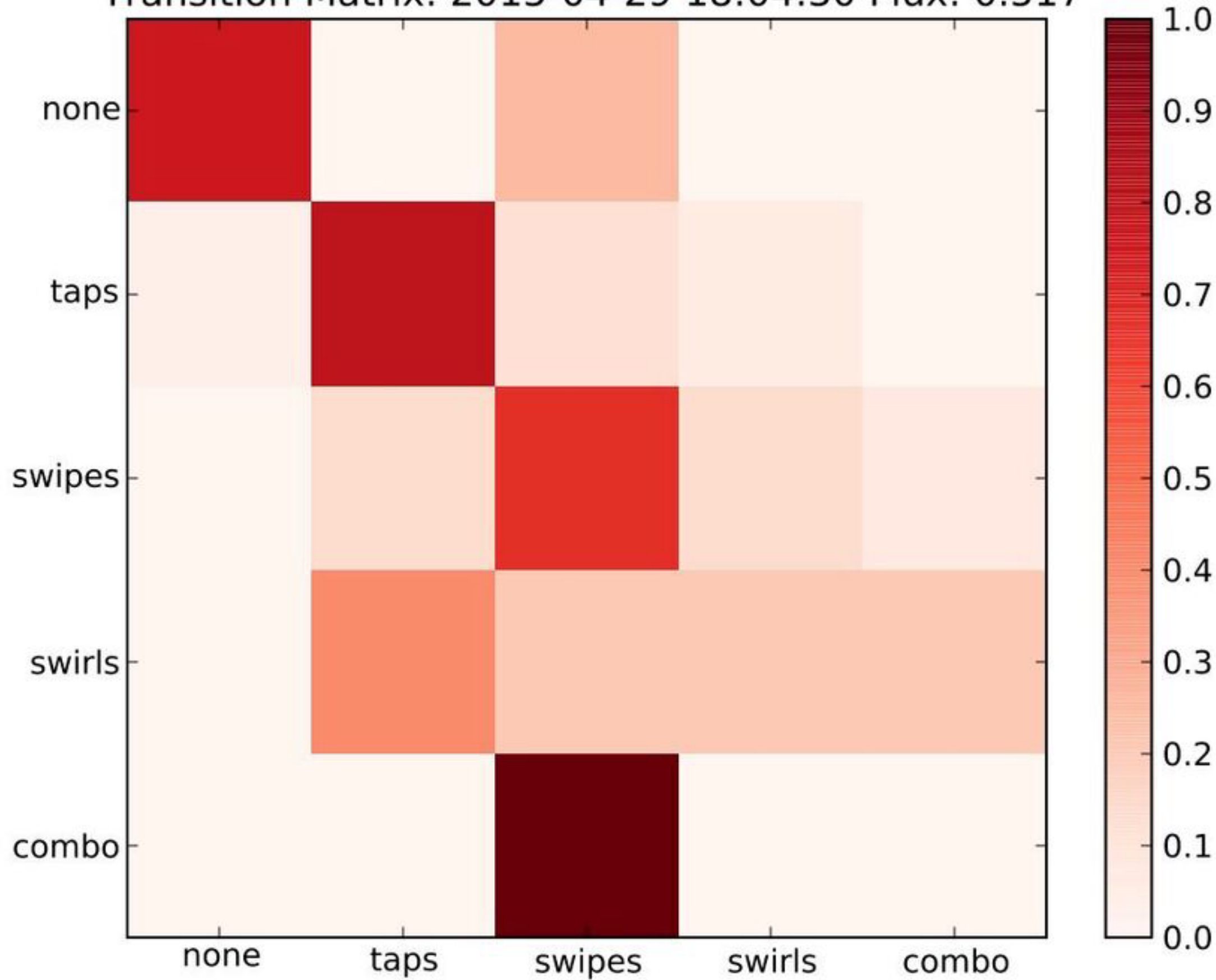
ENSEMBLE DIRECTOR AGENT

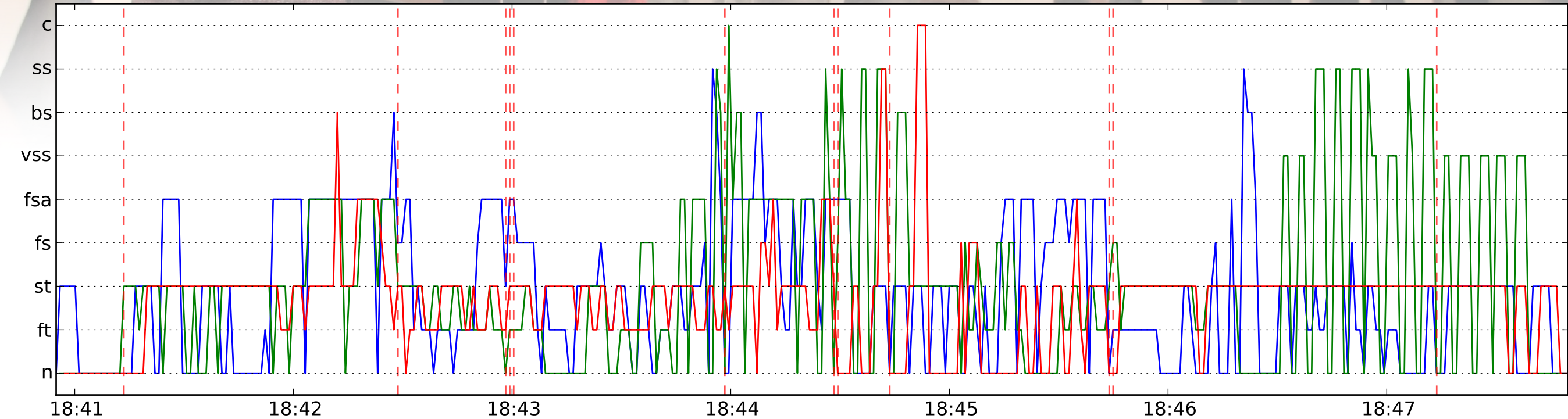
VOCABULARY OF GESTURES

1. nothing
2. slow taps
3. fast taps
4. fast swipes
5. fast swipes accelerating
6. very slow swirl
7. big swirl
8. small swirl
9. combination (swirling and tapping)



Transition Matrix: 2015-04-29 18:04:30 Flux: 0.517



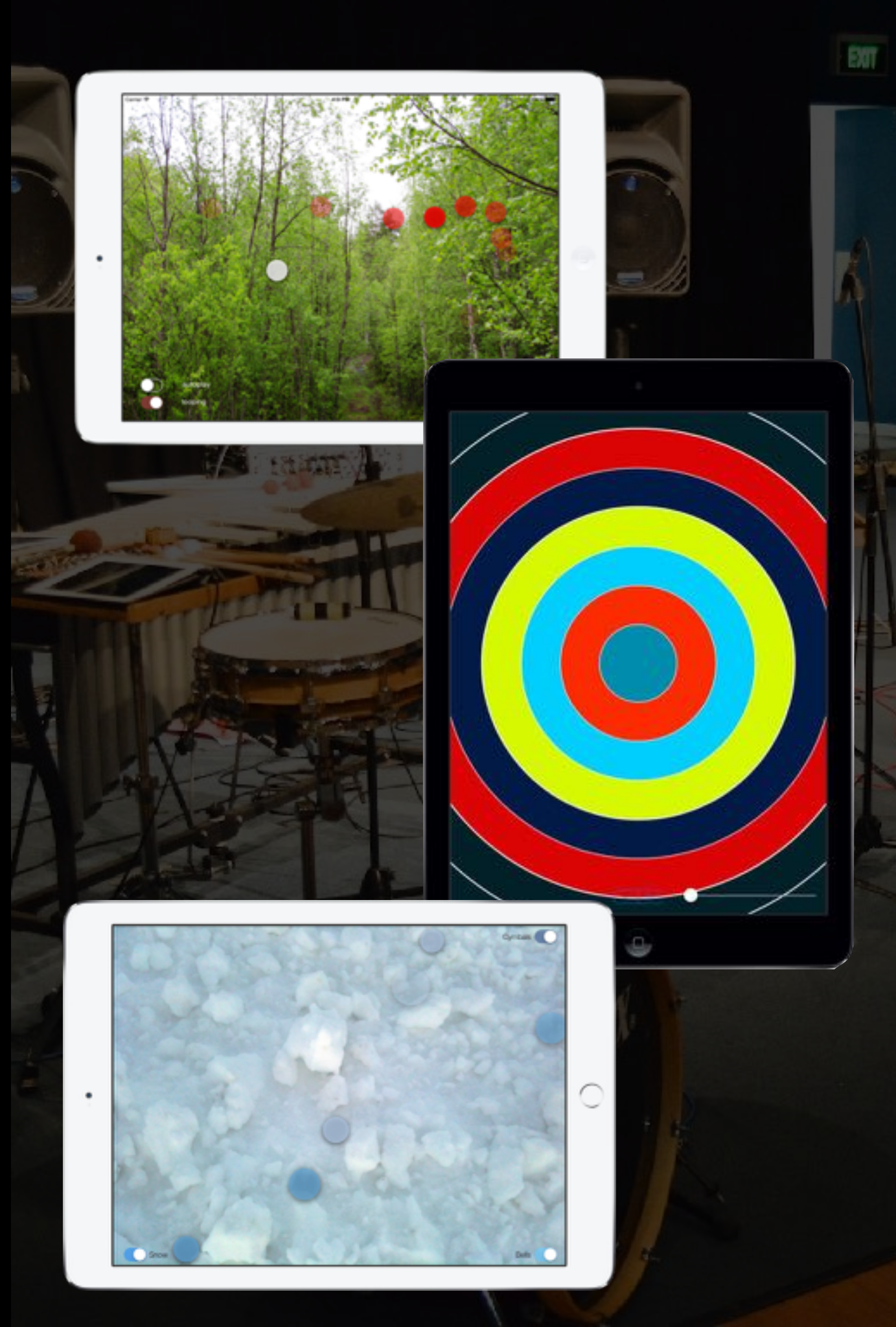


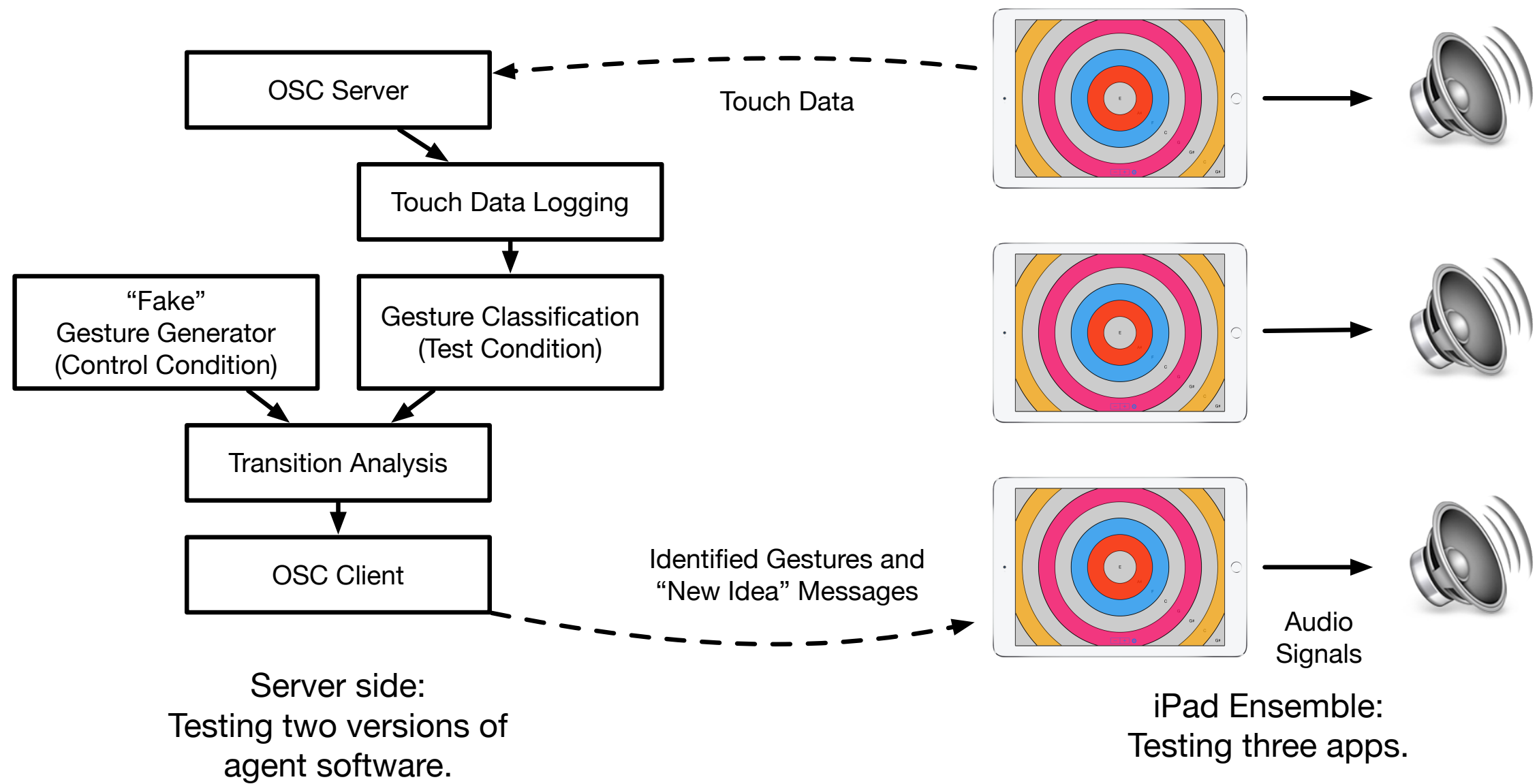
Roles

- Support
- Reward
- Disrupt

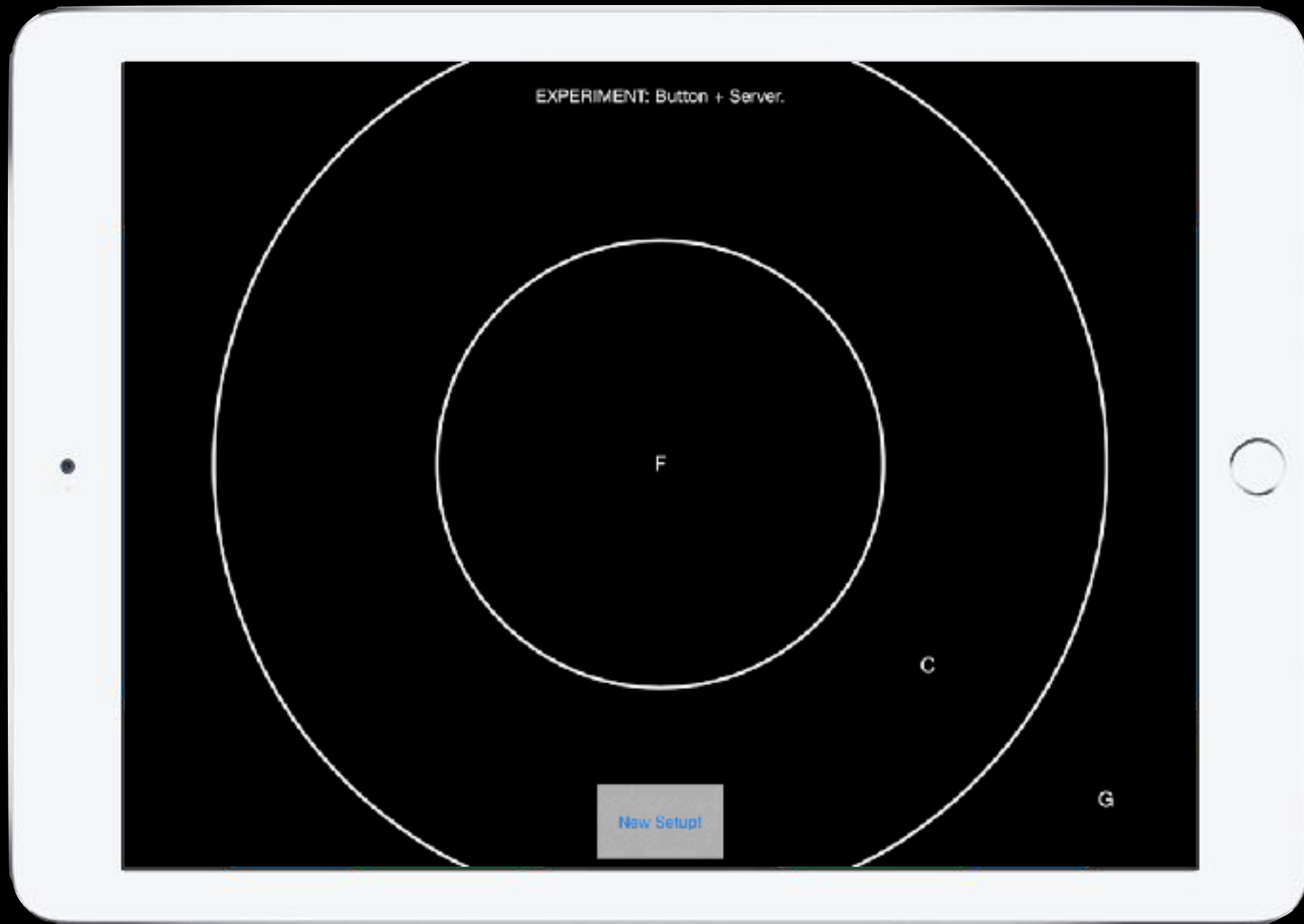
REPERTOIRE OF APPS

- Different responses to agent interactions
- BirdsNest: disrupts performers who linger on gestures
- Singing Bowls: rewards new ideas with new notes
- Snow Music: supports performers who stay on the same gesture with background sounds

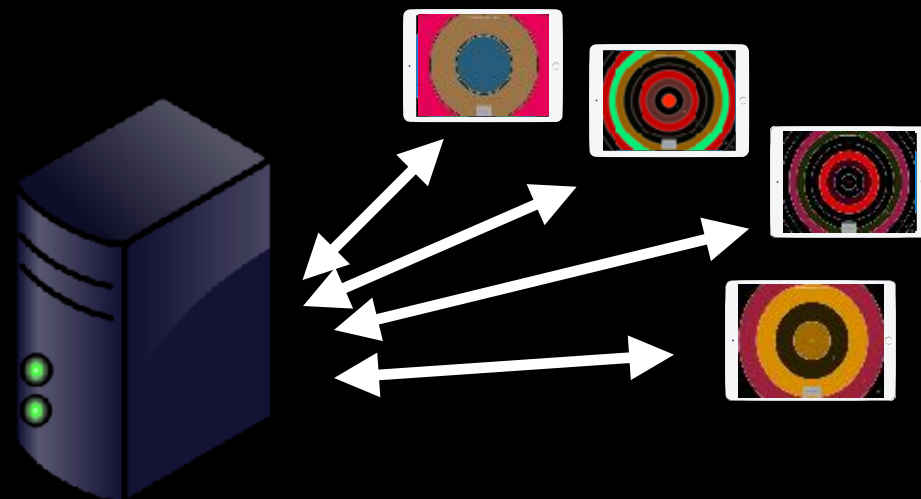




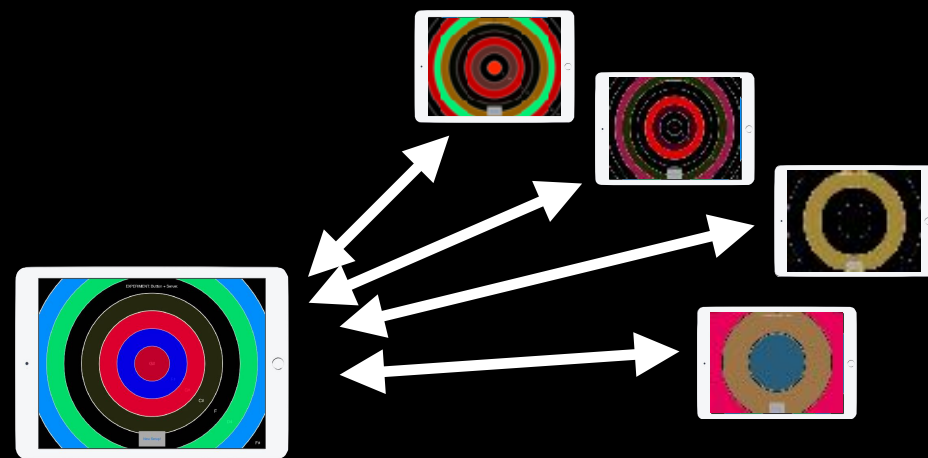
PHASERINGS - AN APP FOR IMPROVISATION



TWO FACTORS: Agent Control:

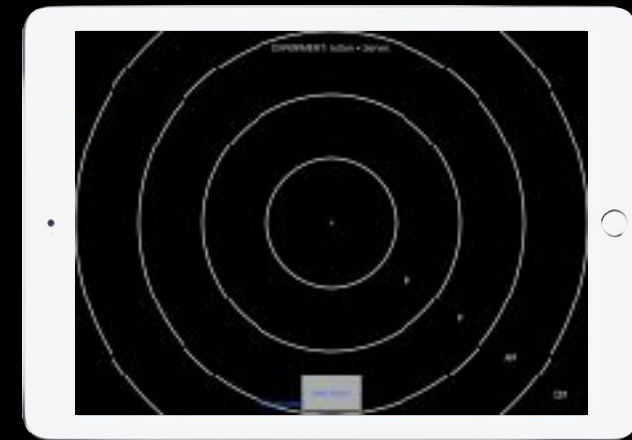


Agent tracks touch data.
Updates triggered at moments
of gestural change.



GUI Control:
Performers can update
interface with a button.
Updates sent to all performers.

Agent On

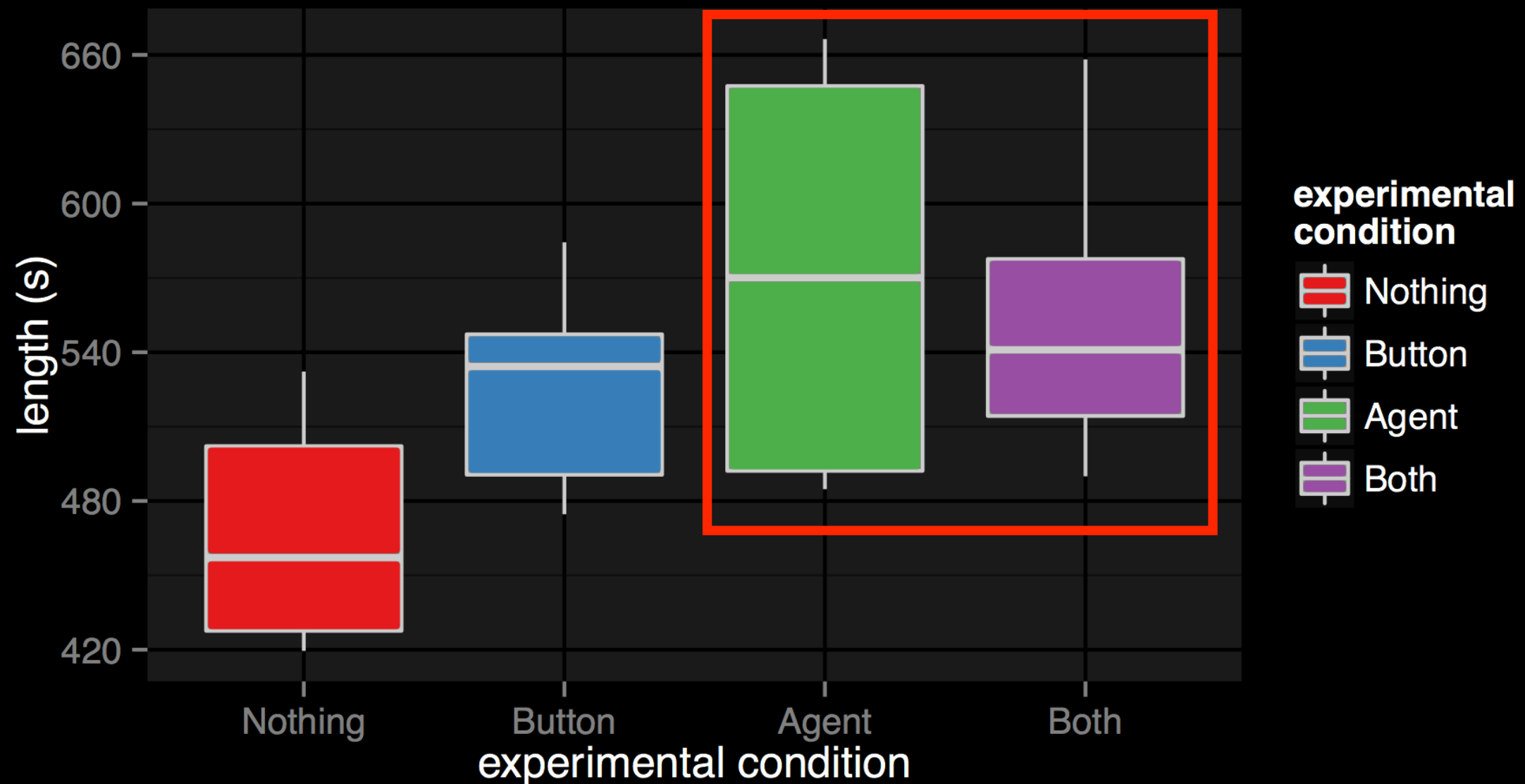


Agent Off



GUI Button Off

GUI Button On



Agent-Control had a signif. effect ($p < 0.001$) on performance length!

STUDY OVERVIEW

